

**WHAT IS CLAIMED IS:**

- 1 1. A method of focusing separate wavelengths of light from a scene, the method  
2 comprising:  
3 focusing a first set of wavelengths of light onto a detector, wherein focusing  
4 the first set of wavelengths comprises positioning at least one lens a first distance  
5 from at least one detector; and  
6 focusing a second set of wavelengths of light onto the at least one detector, the  
7 second set of wavelengths being different from the first set of wavelengths, and  
8 wherein focusing the second set of wavelengths comprises positioning the at least one  
9 lens a second distance from the at least one detector.
- 1 2. The method as in Claim 1, wherein the second set of wavelengths of light  
2 comprises predominantly infrared light.
- 1 3. The method as in Claim 1, wherein the at least one lens is positioned using a  
2 stepper motor, and wherein the second distance is a predetermined number of steps  
3 from the first distance.
- 1 4. The method as in Claim 1, wherein:  
2 the first distance from the at least one detector is determined using an  
3 automatic focusing system capable of focusing a set of wavelengths comprising  
4 visible light; and wherein  
5 the second distance from the at least one detector is a predetermined offset  
6 from the first distance.
- 1 5. The method as in Claim 1, wherein the method is implemented in a scanner.

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1 6. A lens focusing system comprising at least one lens capable of focusing at  
2 least two different sets of wavelengths of light from a scene onto a detector by  
3 altering the distance from said at least one lens to said detector.

1 7. The lens focusing system as in Claim 6, wherein:  
2 one of said at least two different sets of wavelengths of light comprises  
3 primarily visible light; and wherein  
4 another of said at least two different sets of wavelengths of light comprises  
5 primarily infrared light.

1 8. The lens focusing system as in Claim 7, further comprising a motor capable of  
2 altering said distance from said at least one lens to said detector.

1 9. The lens focusing system as in Claim 8, wherein said motor is capable of  
2 moving said at least one lens to alter said distance from said at least one lens to said  
3 detector.

1 10. The lens focusing system as in Claim 8, wherein said motor is capable of  
2 moving said detector to alter said distance from said at least one lens to said detector.

1 11. The lens focusing system as in Claim 8, wherein said motor is a stepper motor  
2 capable of being stepped a predetermined number of times to alter said distance from  
3 said at least one lens to said detector.

1 12. The lens focusing system as in Claim 6, wherein:  
2 a first distance from said at least one lens to said detector is determined using  
3 an automatic focusing system, said first distance capable of focusing a first set of  
4 wavelengths of light; and wherein

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5           a second distance from said at least one lens to said detector is a  
6   predetermined offset from said first distance determined using said automatic  
7   focusing system.

1   13.    The lens focusing system as in Claim 6, wherein said lens focusing system is  
2   implemented in a scanner.

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- 1 14. An image capturing system comprising:  
2 at least one illumination source capable of providing illumination in the  
3 infrared portion of the electromagnetic radiation spectrum;  
4 at least one illumination source capable of providing illumination in the  
5 visible portion of the electromagnetic radiation spectrum;  
6 a detector capable of generating electrical signals in response to light; and  
7 a lens focusing system comprising at least one lens capable of focusing at  
8 least two different sets of wavelengths of light from a scene onto said detector by  
9 altering the distance from said at least one lens to said detector.
- 1 15. The image capturing system as in Claim 14, wherein:  
2 one of said at least two different sets of wavelengths of light comprises  
3 primarily visible light; and wherein  
4 another of said at least two different sets of wavelengths of light comprises  
5 primarily infrared light.
- 1 16. The image capturing system as in Claim 14, further comprising a motor  
2 capable of altering said distance from said at least one lens to said detector.
- 1 17. The image capturing system as in Claim 16, wherein said motor is capable of  
2 moving said at least one lens to alter said distance from said at least one lens to said  
3 detector.
- 1 18. The image capturing system as in Claim 16, wherein said motor is capable of  
2 moving said detector to alter said distance from said at least one lens to said at least  
3 one detector.

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- 1 19. The image capturing system as in Claim 16, wherein said motor is a stepper  
2 motor capable of being stepped a predetermined number of times to alter said  
3 distance from said at least one lens to said detector.
- 1 20. The image capturing system as in Claim 14, wherein:  
2 a first distance from said at least one lens to said detector is determined using  
3 an automatic focusing system, said first distance capable of focusing a first set of  
4 wavelengths of light; and wherein  
5 a second distance from said at least one lens to said detector is a  
6 predetermined offset from said first distance determined using said automatic  
7 focusing system.
- 1 21. The image capturing system as in Claim 14, wherein said image capturing  
2 system is a scanner.

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1 22. A method of focusing separate wavelengths of light from a scene, the method  
2 comprising:

3 focusing a first set of wavelengths of light onto a detector, the first set of  
4 wavelengths of light comprising predominantly visible light;

5 focusing a second set of wavelengths of light onto the detector, the second set  
6 of wavelengths of light comprising predominantly infrared light;

7 wherein the step of focusing the first set of wavelengths of light comprises  
8 interposing a first lens combination in an optical path between the physical medium  
9 and the detector; and

10 wherein the step of focusing the second set of wavelengths of light comprises  
11 interposing a second lens combination in the optical path between the physical  
12 medium and the detector, the second lens combination being different from the first  
13 lens combination.

1 23. The method as in Claim 22, wherein interposing a first lens combination  
2 comprises maintaining a stationary lens in the optical path of light traveling from a  
3 scene to the detector.

1 24. The method as in Claim 23, wherein interposing a second lens combination  
2 comprises positioning at least one movable lens, in addition to the stationary lens, in  
3 the optical path of light traveling from a scene to the detector.

1 25. The method as in Claim 23, wherein interposing a first lens combination  
2 further comprises positioning at least a first movable lens, in addition to the stationary  
3 lens, in the optical path of light traveling from a scene to the detector.

1 26. The method as in Claim 25, wherein interposing a second lens combination  
2 comprises removing the at least a first movable lens from the optical path of light

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3 traveling from a scene to the detector, and positioning at least a second movable lens  
4 into the optical path of light traveling from a scene to the detector.

1 27. The method as in Claim 22, wherein interposing a first lens combination  
2 comprises positioning at least a first movable lens in the optical path of light traveling  
3 from a scene to the detector.

1 28. The method as in Claim 27, wherein interposing a second lens combination  
2 comprises removing the at least a first movable lens from the optical path of light  
3 traveling from a scene to the detector, and positioning at least a second movable lens  
4 into the optical path of light traveling from a scene to the detector.

1 29. The method as in Claim 22, wherein interposing a second lens combination  
2 comprises maintaining a stationary lens in the optical path of light traveling from a  
3 scene to the detector.

1 30. The method as in Claim 29, wherein interposing a first lens combination  
2 comprises positioning at least one movable lens, in addition to the stationary lens, in  
3 the optical path of light traveling from a scene to the detector.

1 31. The method as in Claim 29, wherein interposing a second lens combination  
2 further comprises positioning at least a first movable lens, in addition to the stationary  
3 lens, in the optical path of light traveling from a scene to the detector.

1 32. The method as in Claim 31, wherein interposing a first lens combination  
2 comprises removing the at least a first movable lens from the optical path of light  
3 traveling from a scene to the detector, and positioning at least a second movable lens  
4 into the optical path of light traveling from a scene to the detector.

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1 33. The method as in Claim 22, wherein interposing a second lens combination  
2 comprises positioning at least a first movable lens in the optical path of light traveling  
3 from a scene to the detector.

1 34. The method as in Claim 33, wherein interposing a first lens combination  
2 comprises removing the at least a first movable lens from the optical path of light  
3 traveling from a scene to the detector, and positioning at least a second movable lens  
4 into the optical path of light traveling from a scene to the detector.

1 35. The method as in Claim 22, wherein the method is implemented in a scanner.



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1 36. An image capturing system comprising:  
2 at least one illumination source capable of providing illumination in the  
3 infrared portion of the electromagnetic radiation spectrum;  
4 at least one illumination source capable of providing illumination in the  
5 visible portion of the electromagnetic radiation spectrum;  
6 a detector capable of generate electrical signals in response to light; and  
7 a lens focusing system comprising a plurality of lenses capable of being  
8 interposed in an optical path between a scene and the detector, said plurality of lenses  
9 capable of focusing at least two different sets of wavelengths of light from the scene  
10 onto the detector by moving at least one of said plurality of lenses into and out of said  
11 optical path.

1 37. The image capturing system as in Claim 36, wherein:  
2 one of said at least two different sets of wavelengths of light comprises  
3 primarily visible light; and  
4 one of said at least two different sets of wavelengths of light comprises  
5 primarily infrared light.

1 38. The lens focusing system as in Claim 36, wherein said plurality of lenses  
2 comprises a stationary lens positioned in said optical path between the scene and the  
3 detector.

1 39. The lens focusing system as in Claim 38, wherein said stationary lens and at  
2 least one other of said plurality of lenses cooperate to focus one of said at least two  
3 different sets of wavelengths of light from a scene onto a detector.

1 40. The lens focusing system as in Claim 36, wherein said lens focusing system is  
2 implemented in a scanner.

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1 41. A lens focusing system comprising a plurality of lenses capable of being  
2 interposed in an optical path between a scene and a detector, said plurality of lenses  
3 capable of focusing at least two different sets of wavelengths of light from the scene  
4 onto the detector by moving at least one of said plurality of lenses into and out of said  
5 optical path.

1 42. The lens focusing system as in Claim 41, wherein;  
2 one of said at least two different sets of wavelengths of light comprises  
3 primarily visible light; and  
4 one of said at least two different sets of wavelengths of light comprises  
5 primarily infrared light.

1 43. The lens focusing system as in Claim 41, wherein said plurality of lenses  
2 comprises a stationary lens positioned in said optical path between the scene and the  
3 detector.

1 44. The lens focusing system as in Claim 43, wherein said stationary lens and at  
2 least one other of said plurality of lenses cooperate to focus one of said at least two  
3 different sets of wavelengths of light from a scene onto a detector.

1 45. The lens focusing system as in Claim 41, wherein said lens focusing system is  
2 implemented in a scanner.